REMARKS

The above amendment is made in response to the Office Action mailed May 6, 2004. Claims 1, 3-30 and 32-42 are pending in the present application and stand rejected. Claims 1, 18, 40 and 41 have been amended. Claim 17 has been cancelled.. The Examiner's reconsideration of the claim rejections is respectfully requested in view of the above amendment and the following remarks.

Amended drawings submitted under MPEP § 608.02(q)

A replacement Figure 1 has been submitted. No new matter has been added.

Rejection under 35 U.S.C. § 112

Claims 18 stands rejected under 35 U.S.C. § 112, second paragraph. Claim 18 has been amended to correct the minor grammatical error. Withdrawal of the rejection of claim 18 under 35 U.S.C. § 112, second paragraph, is respectfully requested.

Rejections under 35 U.S.C. § 103

The Office Action rejects the pending claims as follows:

(1) Claims 1, 4-8, 11-13, 16-17, 22, 38 are rejected as being unpatentable over Krishnaswamy et al. (U.S. Patent No. 6.622,300) (hereinafter "Krishnaswamy").

(2) Claims 3, 9-10, 23-30, 32-34, 37 and 39 are rejected as being unpatentable over Krishnaswamy in view of "Dictionary of Computing" (hereinafter "Dictionary")

(3) Claims 35-36 are rejected as being unpatentable over Krishnaswamy in view of Dictionary and further in view of Record et al. (U.S. Patent No. 5,355,484) (hereinafter "Record").

(4) Claims 18-19 are rejected as being unpatentable over Krishnaswamy in view of Altman et al. "DAISY: Dynamic Compilation for 100% Architectural Compatibility" (hereinafter "Altman")

(5) Claims 20-21 are rejected as being unpatentable over Krishnaswamy in view of Altman and further in view of Chang et al. "Using Profile Information to Assist Classic Code Optimizations" (hereinafter "Chang")

(6) Claims 40 and 42 are rejected as being unpatentable over Krishnaswamy in view Keller et al. (U.S. Patent No. 5,355,487) (hereinafter "Keller") and further in view of Chang.

(7) Claim 41 is rejected as being unpatentable over Krishnaswamy in view Keller, in view Chang and further in view of Altman.

Regarding claim 1, the Office Action cites col. 6, lines 21-30 of Krishnaswamy as teaching "selecting at least one of the plurality of events for profiling." The Office Action further cites col. 6, lines 28-29 as teaching "the memory array being separate and distinct from the memory hierarchy so as to not perturb normal operations of the memory hierarchy," as claimed in claim 1. Col. 6, lines 21-30 of Krishnaswamy states the following:

> Profile data is preferably collected via the PMUs 90 included in the CPUs 60. Although the exact operation of PMUs 90 varies with different processors, generally they operate as follows. A PMU 90 includes multiple counters programmable to count events like: clock cycles; instructions retired; and number of stalls caused by events such as data cache/TLB misses, instruction cache/TLB misses, pipeline stalls, etc.

As is clear above, the recited portion of Krishnaswamy simply introduces different types of events, and does not teach or suggest "*selecting* at least one of the plurality of events for profiling," as claimed in claim 1. Further, as is also clear above, the recited portion of Krishnaswamy discloses a performance monitoring unit (PMU), but discloses nothing about the architecture of the system implementing the PMU. Thus, the recited portion of Krishnaswamy also does not teach or suggest "the memory array being *separate and distinct from the memory hierarchy* so as to not perturb normal operations of the memory hierarchy," as claimed in claim 1.

Further, it is respectfully asserted that the motivation provided by the Office Action for combining unrelated portions of Krishnaswamy is entirely speculative. The Office Action does not cite where in the Krishnaswamy the motivation is shown. The Office Action seeks to combine a portion of the generic background dynamic compilation with an unrelated, specific portion of the Krishnaswamy invention using a motivation not found in the reference. Presumably, if the portion of the background was pertinent to the invention of Krishnaswamy, it would have been disclosed as such. Since it clearly was not, the Office Action is left to piece together parts of the Krishnaswamy to artificially formulate a rejection of the claims using the benefit of impermissible hindsight of the instant claims. A *prima facie* case of obviousness cannot be established on such a premise.

Thus, it is respectfully submitted that claim 1 is patentably distinguishable and nonobvious over Krishnaswamy. Dependent claims 3-16 and 18-22 are believed to be allowable for at least the reasons given for claim 1. Withdrawal of the claim rejections under 35 U.S.C. §103(a) is respectfully requested.

Although not so repeated in the interest of economy, it is respectfully asserted that the arguments provided for claim 1 are likewise applicable for claim 23. Further, the Office Action does not address "a *controller* adapted to select the events for profiling and to update the profile counts of the selected events stored in said memory array." It is respectfully asserted that the Office Action must address each and every limitation of the claims. In particular, claim 23 presents additional limitations not present in claim 1 that the Office Action must address separately.

The Office Action attempts to combine Krishnaswamy with a definition of "scaling" available in the Dictionary. It is respectfully asserted that such a rejection is a *textbook* example of an improper obviousness rejection that cannot be based on anything but impermissible hindsight knowledge. Namely, that it is impermissible to use the claimed invention as an instruction manual or "template" in attempting to piece together isolated disclosures and teachings of the prior art so that the claimed invention is rendered obvious. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). A *prima facie* case of obviousness cannot be established by using a motivation to combine extracted from the benefit of the Applicants' disclosure, as it is seemingly done so here by the Office Action. Thus, it is respectfully submitted that claim 1 is patentably distinguishable and nonobvious over the combination of Krishnaswamy and Dictionary. Dependent claims 24-30 and 32-39 are believed to be allowable for at least the reasons given for claim 23. Withdrawal of the claim rejections under 35 U.S.C. §103(a) is respectfully requested..

Regarding amended claim 40, the recited portions of Krishnaswamy, Chang, Keller, and Altman, individually or in combination, do not teach or suggest "storing, in a

memory array, a plurality of *event-specific profile counts, each associated with an event associated with the execution of a path of the computer program*" or "*if* at least one of the selected event-specific profile counts has *exceeded a predefined threshold, optimizing the portions of the computer program associated with the event-specific profile counts more aggressively than other portions of the computer program*."

Accordingly, claim 40 is believed to be patentably distinguishable and nonobvious over the cited references. Dependent claims 41-42 are believed to be allowable for at least the reasons given for claim 40. Withdrawal of the claim rejections under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing remarks, it is respectfully submitted that all the claims now pending in the application are in condition for allowance. Early and favorable reconsideration is respectfully requested.

Respectfully submitted,

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